

केंद्रीय मुहर विभाग-2

संदर्भ : कें.मु.वि-2/16: 3183

20 12 2019

विषय: Petroleum and natural gas industries - Steel pipe for pipeline transportation systems According To IS/ISO 3183:2012 का संशोधित Scheme of Inspection and Testing (SIT)

- 1) यह उपरोक्त के संदर्भ में है।
- 2) IS/ISO 3183:2012 का अनुमोदित संशोधित Scheme of Inspection and Testing (SIT) अनुपालन हेतु संलग्न है।
- 3) सभी शाखा कार्यालयों से अनुरोध है की SIT को अनुज्ञप्तिधारकों को 7 दिन के भीतर भेजें एवं अनुपालन सुनिश्चित करें।

(अरुण पुच्छकायल)
वैज्ञानिक सी

प्रमुख, (कें.मु.वि.-2)

क्षेत्रीय/शाखा कार्यालयों को intranet माध्यम से परिचालित

प्रतिलिपि: ITS - इंट्रानेट पर अपलोड करने के लिए

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16:3183

20 12 2019

Subject: Revised Scheme of Inspection and Testing (SIT) for *Petroleum and natural gas industries - Steel pipe for pipeline transportation systems* According To IS/ISO 3183:2012

1. This has reference to the subject mentioned above.
2. The approved revised SIT for IS/ISO 3183:2012 is enclosed for implementation.
3. BOs are advised to send this SIT to all Licensees within 7 days and ensure its implementation.

(Arun Pucchakayala)
Scientist. C

Head (CMD 2)

Circulated to: All ROs/BOs through BIS intranet

Copy to: ITS for hosting on Intranet

SCHEME OF INSPECTION AND TESTING
FOR PETROLEUM AND NATURAL GAS INDUSTRIES —
STEEL PIPE FOR PIPELINE TRANSPORTATION SYSTEMS
According to IS/ISO 3183:2012

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

2. TEST RECORDS - The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING, MARKING, PACKING- The Standard Mark as given in schedule of the licence and Licence Number (i.e. CM/L.....) shall be incorporated, and the marking and packing shall be done as per the provisions of the Indian Standard, provided always that the product thus marked conform to all the requirements of the specification.

4. CONTROL UNIT - The prescribed quantity of pipes that is made to the same specified outside diameter and specified wall thickness, by the same pipe-manufacturing process, from the same heat and under the same pipe-manufacturing conditions produced in a shift.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

5.2 **MANUFACTURING-** The pipe shall be manufactured in accordance with applicable requirements and limitations given in clause 8 of IS/ISO 3183:2012.

5.3 The purchaser information shall include details as per clause 7 of IS/ISO 3183:2012.

5.4 The general technical delivery requirements shall be as per clause 9.1 of IS/ISO 3183:2012

5.5 Pipe loading requirements, if applicable, shall be in accordance with clause 14 of IS/ISO 3183:2012.

5.6 If agreed, the manufacturer shall supply weldability data for the type of steel concerned or perform weldability tests as per Cl 9.15 of IS/ISO 3183:2012.

5.7 Reprocessing shall be done as per clause 10.2.11 of IS/ISO 3183:2012.

6. TEST CERTIFICATE - Each consignment of BIS Certified material conforming to IS/ISO 3183:2012 shall be accompanied with requisite certificate in accordance with ISO 10474:1991 or EN 10204:2004.

7. REJECTIONS - Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

SCHEME OF INSPECTION AND TESTING
FOR PETROLEUM AND NATURAL GAS INDUSTRIES —
STEEL PIPE FOR PIPELINE TRANSPORTATION SYSTEMS
According to IS/ISO 3183:2012
TABLE 1: LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: Required (or) S: Sub-contracting permitted	Levels of Control		
Clause	Requirements	Test Method			No. of Samples	Frequency	Remarks
		Clause	Reference				
8	Manufacturing	8.1 to 8.13	IS/ISO 3183:2012	R	The pipe shall be manufactured in accordance with applicable requirements and limitations given in clause 8 of IS/ISO 3183:2012		
9.2	Chemical Composition	9.2.1 to 9.2.5 (Table 4, 5) 10.2.4.1 & 10.2.12.1	IS/ISO 3183:2012	S	1	Each Cast	In case the starting material is certified by the supplier according to the requirements of IS/ISO 3183:2012, no further testing is required
9.3	Tensile Properties	9.3.1, 9.3.2 (Table 6, 7) 10.2.3.1, 10.2.3.2, 10.2.4.2 & 10.2.12.2	IS/ISO 3183:2012 IS 1608 Pt.1	R	1	25 tonne or part thereof per each Control Unit	
9.4	Hydrostatic Test	9.4.1, 9.4.2, 10.2.3.1 & 10.2.6	IS/ISO 3183:2012	R	Each Pipe	Each Pipe	
9.5	Bend test	9.5, 10.2.3.1, 10.2.3.5, 10.2.4.5 & 10.2.12.4	IS/ISO 3183:2012 IS 2329	R	1	25 tonne or part thereof per each Control Unit	

9.6	Flattening Test	9.6, 10.2.3.1, 10.2.3.7, 10.2.4.7, Fig 6 & 10.2.12.3	IS/ISO 3183:2012 IS 2328	R	1	25 tonne or part thereof per each Control Unit	
9.7	Guided-Bend Test	9.7.1, 9.7.2, 10.2.3.6, Fig 8, 10.2.4.6 & 10.2.12.5	IS/ISO 3183:2012 IS 1599	R	1	50 lengths of pipe of the same grade or part thereof per each Control unit	
9.8	CVN impact test for PSL 2 pipe	9.8.1, 9.8.2, 9.8.3, 10.2.3.1, 10.2.3.3 10.2.4.3, Fig 7, Annex 'G' &10.2.12.6	IS/ISO 3183:2012 ASTM A370 ISO 148-1	R	1	Pipes having Same cold-Expansion Ratio or part thereof per each Control unit	
9.9	DWT test for PSL 2 welded pipe	9.9.1, 9.9.2, 10.2.3.1, 10.2.3.4, 10.2.4.4 &10.2.12.8	IS/ISO 3183:2012 API RP 5L3	R	1	-do-	
9.10	Surface conditions, Imperfections & Defects	9.10.1 To 9.10.7, 10.2.7 & 10.2.4.8	IS/ISO 3183:2012	R	Each pipe	Each Pipe	Pipes failing in this requirement shall not be marked

9.11 & 9.14	Dimensions, Mass & Tolerances	9.11.1 to 9.11.3, 9.14.1 to 9.14.3 & 10.2.8 to 10.2.9	IS/ISO 3183:2012	R	1	Four hour production of pipes of one particular size and grade	The record shall be maintained and in case sample fails, the production of that four hours shall not be marked.
9.12	Finish of Pipe Ends	9.12.1 To 9.12.5 & 12.2	IS/ISO 3183:2012	R	Each Pipe (Threaded ends shall be checked with ring gauges)	Each Pipe	Pipes failing in this requirement shall not be marked.
9.13	Tolerances for the Weld Seam	9.13.1 To 9.13.3 & 10.2.5	IS/ISO 3183:2012	R	1	One Control Unit	Every Shift plus in case of change of pipe size during shift
10.2.7	Visual inspection	10.2.7	IS/ISO 3183:2012	R	Each pipe	Each Pipe	
8.11	Welded Joints	Annex 'A'	IS/ISO 3183:2012	R	Joints may be furnished if agreed.		
10.2.10	Non-destructive Inspection	Annex 'E'	IS/ISO 3183:2012	S	Each pipe	Each Pipe	
Annex -F	Couplings	Annex 'F'	IS/ISO 3183:2012	R	5% with ring gauge on both ends and record of tensile test (one test for each consignment) shall be made available from the supplier		

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval to BO head.